AMENDMENTS TO THE CLAIMS

1. (Previously presented) A method for forming carbon nanotubes for an electron-emitting device, comprising:

granularizing a catalyst layer to generate nano-sized granules for growing a plurality of carbon nanotubes;

soaking the granularized catalyst layer in a soaking gas before growing the plurality of carbon nanotubes to enhance diffusion properties of the granularized catalyst layer; and

growing the plurality of carbon nanotubes by exposing the catalyst layer to a plasma source gas.

2. (Previously presented) The method of claim 1, wherein the soaking gas is a hydrocarbon-containing gas.

3. (Canceled)

4. (Previously presented) The method of claim 1, wherein the catalyst layer is soaked in the soaking gas in a temperature range of 300°C to 500°C.

5. (Previously presented) The method of claim 1, wherein said catalyst layer is soaked in a vacuum environment.

6. (Previously presented) The method of claim 1, wherein the plasma source gas comprises CH_4.

7. (Previously presented) The method of claim 1, wherein the soaking gas comprises C_2H_2.

8. (Previously presented) The method of claim 1, wherein the plasma source gas is selected from a group consisting of: CH_4 and C_2H_2.

9. (Currently amended) The method of claim 1, wherein the plasma source gas includes an additive gas that improves ~~to improve~~ the quality of the plurality of carbon nanotubes formed on the catalyst layer.

10. (Previously presented) The method of claim 1, wherein the plasma source gas is provided by a capacitively coupled plasma source.

11. (Previously presented) The method of claim 1, wherein the plasma source gas is provided by an inductively coupled plasma source.

12. (Previously presented) The method of claim 1, wherein the plasma source gas is provided by a microwave plasma source.

13. (Previously presented) The method of claim 9, wherein the additive gas comprises NH_3.

14. (Previously presented) The method of claim 9, wherein the additive gas comprises H_2.

15. (Previously presented) The method of claim 1, wherein the catalyst layer is disposed on a glass substrate.

16. (Previously presented) The method of claim 1, wherein the catalyst layer is soaked in the soaking gas for approximately 1 to 30 minutes.

17. (Previously presented) The method of claim 1, wherein soaking the catalyst layer in the soaking gas comprises exposing the catalyst layer to a flow of the soaking gas over the catalyst layer.

18. (Previously presented) The method of claim 1, wherein the soaking gas is the same gas used in the growing of the carbon nanotubes.

19. (Currently amended) The method of claim 1, wherein the soaking gas is maintained at a density of 10^{10} to 10^{12} $\underline{cm^{-3}}$ [[cm^3]] while soaking the catalyst layer in the soaking gas.

20. (Previously presented) The method of claim 1, wherein the plurality of carbon nanotubes are formed using a plasma chemical vapor deposition process and a plasma pressure of 0.5 Torr to 10 Torr.

21. (Previously presented) The method of claim 1, wherein the growing is performed without flushing the soaking gas from the granularized catalyst layer.

22. (New) The method of claim 1, wherein the carbon nanotubes are grown on a substrate and are suitable for an electron-emitting device.